1.   A method for transmitting information from a base station to
2   mobile stations in a communication system, the method comprising the steps
of:
4   (A)   identifying at least one portion of a time frame within the forward
link, the identified portion of the frame having available capacity for transmitting
6   at least a portion of at least one previously unscheduled traffic stream in
addition to any traffic streams previously scheduled to be transmitted over the
8   forward link; and
(B)   simultaneously transmitting the previously scheduled traffic
10   streams and the portion of the previously unscheduled traffic stream during the
identified portion of the frame.

2.   A method for transmitting information from a base station to
2   mobile stations in a communication system, the method comprising the steps
of:
4   (A)   identifying at least one portion of a time frame within the
forward link, the identified portion of the frame having available capacity for
6   transmitting at least a portion of at least one previously unscheduled traffic
stream in addition to any traffic streams previously scheduled to be transmitted
8   over the forward link; and
(B)   simultaneously transmitting the previously scheduled traffic
10   streams and the portion of the previously unscheduled traffic stream during the
identified portion of the frame,
12   wherein a sum of the power allocated to the scheduled and unscheduled
traffic streams is no greater than a maximum power ceiling.
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3.   The method of Claim 2, wherein the sum is substantially equal to
2   the maximum power ceiling and the sum is maintained at a constant level over
a plurality of time frames by repeating the steps of Claim 1.
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4. The method of Claim 2, wherein at least a portion of one frame in the previously unscheduled set of traffic streams is intentionally transmitted at a first symbol energy that is insufficient for correct demodulation by an intended receiving station.

5. The method of Claim 4, further comprising the step of retransmitting on the forward link at least one portion of the information previously transmitted at the first symbol energy amount, wherein the retransmitted portion is retransmitted with a symbol energy that is insufficient by itself for correct demodulation by the intended receiving station.

6. The method of Claim 5, repeating retransmission of the retransmitted portion until the sum of the symbol energy received is great enough to permit correct demodulation of the retransmitted portion by the intended receiving station.

7. The method of Claim 6, wherein the previously scheduled traffic streams includes at least one constant bit rate traffic stream and at least one variable bit rate traffic stream.

8. The method of Claim 7, wherein frames in the constant bit rate traffic stream and frames in the previously unscheduled traffic streams are offset in time with respect to each other.

9. The method of Claim 8, wherein frames in the previously unscheduled traffic streams include messages that have different lengths.

10. The method of Claim 2, wherein a traffic stream from the previously unscheduled streams has a different frame length than a traffic stream from the previously scheduled steams.

11. The method of Claim 10, wherein the further traffic stream is transmitted discontinuously.

12. The method of Claim 11, wherein the previously unscheduled

2 traffic stream has a lower priority than the previously scheduled traffic streams.

13. The method of Claim 2, wherein frames in at least one of the

2 previously scheduled traffic streams and frames in the at least one of the

previously unscheduled traffic stream are offset in time with respect to each

4 other.

14. The method of Claim 13, wherein frames in at least one of the

2 previously scheduled traffic streams and frames in the at least one of the

previously unscheduled traffic stream have different lengths.

15. The method of Claim 2, wherein the communication system uses

2 code division multiple access (CDMA) modulation.

16. In a radio communication system having a base station and a

2 plurality of mobile stations, wherein a forward link that includes a plurality of

traffic streams is sent on at least one channel from the base station to the

4 mobile stations, and the forward link is subject to a maximum power ceiling, an

apparatus for transmitting information from the base station to the mobile

6 stations, comprising:

(A)   a base station controller that determines an output power

8 level associated with simultaneously transmitting a first set of one or more

traffic streams from the base station to the mobile stations on the forward link,

10 compares the output power level with the maximum power ceiling, and

identifies at least one time frame in the forward link having available capacity

12 for transmitting a portion of a second set of one or more traffic stream; and

(B)   a base station transmitter that simultaneously transmits the

14 first set of one or more traffic streams and the portion of the second set of one

or more traffic stream during the at least one frame on the forward link.

17. In a radio communication system having a base station and a

2 plurality of mobile stations, wherein a forward link that includes a plurality of

traffic streams is sent on at least one channel from the base station to the

4 mobile stations, and the forward link is subject to a maximum power ceiling, an

apparatus for transmitting information from the base station to the mobile

6 stations, comprising:

(A) means for determining an output power level associated

8 with simultaneously transmitting a first set of one or more traffic streams from

the base station to the mobile stations on the forward link;

10 (B) means for comparing the output power level with the

maximum power ceiling;

12 (C) means for identifying at least one time frame in the forward

link having available capacity for transmitting a portion of a second set of one or

14 more traffic stream; and

(D) means for simultaneously transmitting the first set of one or

16 more traffic streams and the portion of the second set of one or more traffic

stream during the at least one frame on the forward link.